

**HOST RECORDS (FAMILY ASCLEPIADACEAE) AND
DISTRIBUTION OF *TIRUMALA HAMATA HAMATA* (W.S.
MACLEAY) (LEPIDOPTERA: NYMPHALIDAE) IN
AUSTRALIA**

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Abstract

The species of the family Asclepiadaceae, hosts for larvae of *Tirumala hamata hamata* are reviewed and their distribution noted. *Marsdenia velutina* R. Br. is recorded as a host in the Northern Territory.

Introduction

Tirumala hamata hamata is widespread in eastern and northern Australia, Malesia and Melanesia (Common and Waterhouse 1981, Ackery and Vane-Wright 1984). Previously recorded larval food plants in the Asclepiadaceae are *Secamone elliptica* R. Br., *Cynanchum carnosum* (R. Br.) Schltr. (as *Ischnostemma carnosum*, but see Forster 1988) (Sankowsky 1975); *Heterostemma papuana* Schltr., (Parsons in Ackery and Vane-Wright 1984) and *Hoya australis* R. Br. ex Traill (Edgar in Ackery and Vane-Wright 1984). All of these asclepiadaceous plants are widely distributed within Australia, Melanesia and in parts of Malesia (Forster 1988, Forster and Harold 1989).

Some Asclepiadaceae in the Australian region are either evergreen or may be seasonally deciduous. The deciduous taxa are to be found predominantly in the northern tropical parts of Australia where there are marked wet and dry seasons. *Secamone elliptica* and *Cynanchum carnosum* are evergreen vines, although *S. elliptica* may partially defoliate under conditions of severe water deficit stress. *Hoya australis* is a succulent leaved evergreen vine, with a number of variable infraspecific taxa in the Australian region (Forster and Liddle unpublished).

Observations & Discussion

In the region including Darwin and Palmerston in the Northern Territory, *T. hamata hamata* utilises *S. elliptica* and *C. carnosum*, both previously recorded as larval hosts from south-eastern Queensland (Sankowsky 1975). This butterfly has also been observed to oviposit and successfully develop from egg to adult on *Marsdenia velutina* R. Br. While *M. velutina* is perennial, eggs are laid only on the fresh young leaves which are available only in the wet season. *M. velutina* has a fairly extensive distribution in the Northern Territory, but is recorded from only a few localities in Western Australia and Queensland (Forster unpublished). *M. velutina* is particularly widespread in Papuaia (Forster 1990), so may well be utilised in these regions as well.



Fig. 1. Distribution in Australia for *Secamone elliptica*, *Cynanchum carnosum* and *Marsdenia velutina* (vertical hatching) and for *Tirumala hamata hamata* (cross hatching) (redrawn from Common and Waterhouse 1981).

The new and published records for distribution in Australia for Asclepiadaceae hosts are given in Figure 1. Comparison of these distributions to that given for *T. hamata hamata* by Common and Waterhouse (1981) would indicate that the butterfly may utilise further as yet unrecorded hosts in southern New South Wales and Victoria if it is to successfully reproduce in those areas. Otherwise it may migrate to southern parts of Australia.

Asclepiadaceae that occur in these southern areas include *Tylophora barbata* R. Br., *T. paniculata* R. Br., *Marsdenia suaveolens* R. Br., *M. flavescens* A. Cunn. and *M. rostrata* R. Br. and some of these may be suitable as hosts for *T. hamata hamata*.

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References

- ACKERY, P.R. and VANE-WRIGHT, R.I. 1984. *Milkweed butterflies their cladistics and biology*. Pp. vii + 425. British Museum (Natural History), London.
- COMMON, I.F.B. and WATERHOUSE, D.F. 1981. *Butterflies of Australia*. Pp. xiv + 682. Angus and Robertson, Sydney.
- FORSTER, P.I. 1988. Studies on the Australasian Asclepiadaceae. V. *Cynanchum carnosum* (R.Br.) Schltr. and its synonymy. *Austrobaileya* 2: 525-527.
- FORSTER, P.I. 1990. Notes on Asclepiadaceae, 2. *Austrobaileya* 3: 273-289.
- FORSTER, P.I. and HAROLD, K. 1989. *Secamone* R.Br. (Asclepiadaceae: Secamonoideae) in Australia. *Austrobaileya* 3: 69-78.
- SANKOWSKY, G. 1975. Some new food plants for various Queensland butterflies. *Australian Entomological Magazine* 2: 55-56.